



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

**AMENDMENT "A" PRIOR TO ACTION**

APPLICANTS: Beuthan et al.

SERIAL NO.: 09/775,070 GROUP ART UNIT: 3737

FILED: February 1, 2001

TITLE: "METHOD AND APPARATUS FOR ARTHRITIS DIAGNOSIS"

Assistant Commissioner for Patents,

Washington, D.C. 20231

S I R:

Applicants herewith amend the above-referenced application as follows, and request entry of the Amendment prior to examination on the merits.

**IN THE SPECIFICATION**

The paragraph beginning at page 13, line 12, has been amended as follows:

Besides this embodiment for determining circumference, using the apparatus 1 a number of scattered light distributions also can be recorded and evaluated, in order to determine further characteristic values that are important for the subsequent diagnosis. In the context of the diaphanoscopy examination, the finger joint is transilluminated with light from the light source 9. In the depicted exemplary embodiment, this is a single laser diode that emits narrowband light having a wavelength in the region of the optical tissue window. This light penetrates the joint 4, which is transparent in the region of the joint gap as well as in the cartilage region and in the region of the joint fluid, and exits at the opposite side of the joint 4 as scattered light. This scattered light is deflected via the deflecting mirror 14 into the camera apparatus 15, where the scattered light distribution is recorded and is subsequently read out to the computer 18. In order to carry out this diaphanoscopy examination, the

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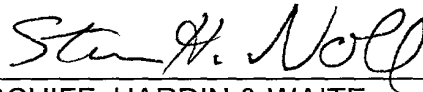
finger joint 4 first must be positioned over the light source 9 in such a way that the optimal locus of radiation at the joint 4 is located precisely over the light source 9. In order to determine the optimal locus of radiation, the region of the joint 4 in which the optimal examination locus is probably located is first positioned roughly over the light source 9, and subsequently transilluminations are made sequentially at various points located next to one another, in order to record first scattered light distributions in the form of locus-related spread functions, in particular point spread functions, which are subsequently evaluated at the computer 18. The precise procedure for the determination of this optimal locus of examination is specified in PCT application WO 99 04684. For the sequential illumination, the finger support 2 is displaced in step-by-step fashion in relation to the light source 9, which takes place by means of the stepper motor 7.

#### **REMARKS**

The above paragraph has been amended to correct an error whereby a reference was incorrectly cited. As explained in the Information Disclosure Statement filed simultaneously herewith, both PCT Application WO 99/04683 and PCT Application WO 99/04684 disclose information relative to the present application, but the previously-cited co-pending United States application corresponds only to PCT Application WO 99/064683, and since PCT Application WO 99/04684 was intended to be cited at page 14 of the present specification, the citation of the aforementioned co-pending application was erroneous.

Early consideration on the merits is respectfully requested.

Submitted by,



(Reg. 28,982)

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## **VERSION WITH MARKINGS TO SHOW CHANGES MADE**

### **IN THE SPECIFICATION**

Please amend the paragraph beginning at page 13, line 12, as follows:

Besides this embodiment for determining circumference, using the apparatus 1 a number of scattered light distributions also can be recorded and evaluated, in order to determine further characteristic values that are important for the subsequent diagnosis. In the context of the diaphanoscopy examination, the finger joint is transilluminated with light from the light source 9. In the depicted exemplary embodiment, this is a single laser diode that emits narrowband light having a wavelength in the region of the optical tissue window. This light penetrates the joint 4, which is transparent in the region of the joint gap as well as in the cartilage region and in the region of the joint fluid, and exits at the opposite side of the joint 4 as scattered light. This scattered light is deflected via the deflecting mirror 14 into the camera apparatus 15, where the scattered light distribution is recorded and is subsequently read out to the computer 18. In order to carry out this diaphanoscopy examination, the finger joint 4 first must be positioned over the light source 9 in such a way that the optimal locus of radiation at the joint 4 is located precisely over the light source 9. In order to determine the optimal locus of radiation, the region of the joint 4 in which the optimal examination locus is probably located is first positioned roughly over the light source 9, and subsequently transilluminations are made sequentially at various points located next to one another, in order to record first scattered light distributions in the form of locus-related spread functions, in particular point spread functions, which are subsequently evaluated at the computer 18. The precise procedure for the determination of this optimal locus of examination is specified in [application Serial No.

09/463,110] PCT application WO 99 04684. For the sequential illumination, the finger support 2 is displaced in step-by-step fashion in relation to the light source 9, which takes place by means of the stepper motor 7.